


REFERENCES


Sir,—Thank you for giving us the opportunity to reply to Dr Meakin’s letter, which helps to clarify his views on this issue, and highlights the different bases of our respective recommendations for fresh gas flow (FGF).

The “normal” values for minute volume (Ve) in children quoted by Meakin and Coates (1983) were taken from the Engstrom nomogram (Engstrom and Herzog, 1959), which was constructed for use with controlled ventilation. Meakin and Coates correctly pointed out that, during anaesthesia with spontaneous breathing, Ve is usually depressed to two-thirds of the predicted normal value obtained from this nomogram, but they also found that the reduction of FGF to 70% of this predicted value (approximately equal to actual Ve during anaesthesia) only produced changes attributable to rebreathing in two out of 10 patients studied. They wrote “Ve Ve T (degree of rebreathing) was small in the majority of patients when Ve (fresh gas flow) was reduced to Ve (estimated minute volume) and 0.7 Ve.” In addition, they found large increases in Ve in response to surgical stimulation in some patients, with increased rebreathing at the FGF recommended, although the net result of this was a decrease of end-tidal carbon dioxide tension (Pe CO2). They made no suggestion that FGF should be increased in these patients, even though FGF was probably less than Ve.

Stimulated by Meakin and Coates’ interesting paper, and by the results of a previous study on the accuracy of various formulae as predictors of fresh gas flow requirements during spontaneous breathing with the T-piece (Lindahl, Charlton and Hatch, 1984), we wanted to quantify the ventilatory response to rebreathing in order to gain more knowledge of the margins of safety in the anaesthetised child. We do not believe it is wise to subject anaesthetized spontaneously breathing children to significant rebreathing as judged by the criteria set by Kain and Nunn (1968), even if they are able to maintain a normal Pe CO2, and we feel measurements of actual Ve are essential in the formulation of sensible recommendations to avoid this.

S. G. E. LINDAHΛ
A. J. CHARLTON
D. J. HATCH
London

CARDIAC ARREST IMMEDIATELY AFTER VECURONIUM

Sir,—Recent reports have brought to our attention a possible association between the new cardiovascularly “clean” myoneural blockers and serious bradycardias (Kirkwood and Duckworth, 1983; Milligan and Beers, 1985). Common in the majority of these reports have been: (a) the omission of an anticholinergic agent either as premedication or at induction, (b) a relatively slow heart rate before the arrhythmia and (c) a delay of up to 20 min between the administration of the myoneural blocker and the onset of the arrhythmia. Any actual association has been called into question (Maestro and Pradella, 1985).

Recently a 79-year-old female (45 kg) presented with an actively bleeding gastric ulcer, having been admitted as an emergency 7 days previously with a haematemesis. Following initial resuscitation and a negative endoscopy, the patient had...